

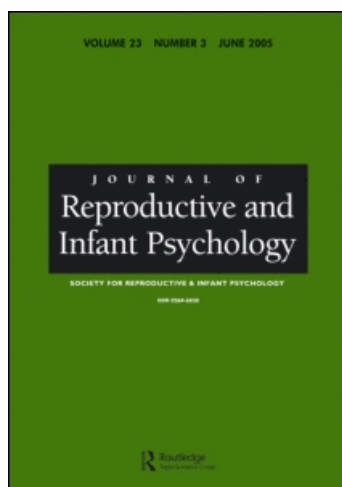
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Maternal adjustment to the birth of a child: Primiparity versus multiparity

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Introduction: The literature has highlighted the birth of a first child as a crisis moment that implies change and reorganisation. None the less, the specificities of maternal adjustment to the birth of another child are not yet completely known. **Goals:** To understand differences in adjusting to the birth of a child, in primiparous and multiparous mothers. Specifically: (1) identify and describe differences in adjusting at two different moments: 2–5 days after the birth and 8 months post-partum; (2) identify and describe differences or continuities among primiparous and multiparous mothers regarding the temporal evolution of adjustment. **Method:** 179 mothers (98 primiparous; 81 multiparous) were assessed in two different periods: 2–5 days after the birth and 8 months later, concerning adjustment and need for reorganisation. The assessment protocol included a social-demographic data file, the Emotional Assessment Scale, the Brief Symptom Inventory, the Perceived Stress Scale, and adjectival scales. **Results:** Primiparous mothers report greater adjustment difficulties right after the birth. Multiparous mothers show a less positive adjustment trajectory, mainly reflected in increasing levels of negative emotional reactivity. **Conclusion:** Results support the existence of different adjustment trajectories for primiparous and multiparous mothers, suggesting the need for differentiated psychological intervention strategies regarding each group.

Keywords: motherhood; psychological adjustment; parity

Introduction

Although considered a normative event in the life of individuals and families, the birth of a child constitutes a moment of crisis that implies change and reorganisation in the parents' life (Boss, 2002). The identity and roles of parents and other family members are redefined (Colman & Colman, 1994), in a process that takes time and, as all crisis moments, usually implies increased stress levels.

Scientific literature tends to relate the concept of transition to parenthood, defined as the relatively brief period that goes from the beginning of a pregnancy to the first months following the child's birth (Goldberg & Michaels, 1988; cited in Moura-Ramos, 2006), to the birth of the first child. Although this approach tends to implicitly consider the birth of subsequent children as not presenting so many challenges to the family, some authors point out that the birth of other children are equally significant reorganisation moments, and thus should also be incorporated into this concept (Goldberg, 1988; Kreppner, 1988; Stewart, 1990).

In an attempt to describe and clarify differences in the adjustment to the birth of a child in primiparous and multiparous mothers, a longitudinal study was designed

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with two assessment time periods: just after the birth, and after mothers' return to work¹ (8 months post-partum).

Adjustment to motherhood

According to a developmental perspective, pregnancy and motherhood are considered specific tasks of the life cycle, characterised by a set of challenges whose positive resolution increases the chances of the individual to stay on an adaptive pathway or of returning to it (Cummings, Davies & Campbell, 2000). In Boss' (2002) language, we are referring to a crisis moment and, thus, the expected higher stress levels indicate a need for reorganisation in order to cope with new specific situational demands that may allow for a future improved functioning.

Canavarro (2001) defined adjustment to motherhood as 'the capacity to fulfil a set of [associated] developmental tasks, merging them in the capacity to bear and educate a child and by so promoting the child and her own positive development' (p. 45).

The operationalisation of adjustment to maternity, nonetheless, does not seem to be universal, and this concept has been related to several different features, such as satisfaction, perceived stress, psychopathology, changes in self-perception and identity feelings, and performance of parental tasks, among others (Moura-Ramos, 2006).

The influence of parity in the transition to parenthood

When referring to the transition to parenthood, individual adjustment differences are easily identified, both regarding parental well-being and involvement with the infant and parental care. Several factors are usually mentioned as a possible source of these individual variations, e.g. socio-economic status, personality factors, quality of the marital relationship, the child's characteristics (e.g. temperament), among others. Less attention has been dedicated to parity as an influence factor of adjustment to parenthood.

The authors find this somewhat surprising because, if it is consensual that the birth of a first child presents parents with a new set of challenges (namely the experience of pregnancy and birth and the performance of a new role as caregiver), the birth of a second or third child, lacking the novelty of these experiences, may imply other equally significant and demanding challenges. Stewart (1990) states that this period can be as complex as the birth of a first child, or even more so, because it not only requires the reorganisation of the marital system, but also that of the previously existing parental system. In accordance, Goldberg and Michaels (1988) argue that this second transition, if less dramatic, is certainly more complex.

Although not directly aiming to study the differences in adjustment to parenthood resulting from parity, some studies focusing on the transition to parenthood have contributed relevant information on the subject. These are briefly shown here.

Hakulinen, Paunonen, White and Wilson (1997), in their study about family dynamics, found that multiparous couples assessed during the third trimester of pregnancy reported more isolation and conflict in the performance of their parental roles than couples without previous experience of parenthood. When comparing

couples expecting their first child with couples that expected their second, Condon and Esuvaranathan (1990) found higher levels of stress in the latter.

In the post-partum period, Skaria et al. (2004) found that multiparity predicted psychological distress in women, assessed 6 weeks and 6 months after the birth. Similarly, Wilkinson (1995), in a sample of 210 individuals (107 women and 103 men), assessed 3 months after the birth, concluded that individuals with more than one child showed higher levels of distress and lower level of well-being than individuals bearing their first child. Righetti-Veltema, Conne-Perréard, Bousquet and Manzano (1998) assessed post-partum depression in a total of 570 women, 3 months after the birth, and verified that multiparity is a risk factor for this kind of psychopathology. Another study found a marginal association of multiparity with increased risk for postnatal depression (Johnstone, Boyce, Hickey, Morris-Yates & Harris, 2001). In the same line, Vliegen, Luyten, Meurs and Cluckers (2006) verified that multiparous mothers, assessed during their child's first year of life, reported higher levels of depressive symptoms than primiparous mothers.

Other longitudinal studies allowed for the observation of variations in the adjustment of primiparous and multiparous mothers. Wilkinson (1999), trying to analyse mood variation in mothers and fathers, from the second pregnancy trimester to the end of the first trimester after the birth, found that primiparous mothers simultaneously reported, in all four assessment points, higher positive and lower negative affect levels. The only exception to this rule was the period right after the birth (10 days after), during which primiparous mothers reported higher levels of negative affect than multiparous mothers.

Results reported by Hung (2004), in a sample of 861 recent mothers, in which the levels of post-partum stress (average of 21 days post-partum) were higher in primiparous mothers, seem to confirm this period as bearing a special risk for these mothers. None the less, these mothers also reported higher social support than those that had more than one child, and this proved to be correlated to a decrease in their depression scores.

In the Transition to Parenthood Helsinki Longitudinal Study (Salmena-Aro & Nurmi, 1983), 348 mothers (half of which were primiparous, and the other half multiparous) were assessed at four different points: the beginning of pregnancy, one month before the birth, three months, and two years post-partum. Among other interesting results, the authors found that scores regarding self-concept increased across the different assessment periods for primiparous mothers, while decreasing for multiparous.

Another study designed to investigate the duration and quality of sleep across pregnancy and post-partum revealed that primiparous mothers, when compared to multiparous, showed less efficient sleep (they slept less time during the total time they spent in bed or trying to sleep) from the second pregnancy trimester until 6 weeks after the birth, although at that time they spent more time in bed. These mothers also showed less daily sleep episodes (it was considered likely that multiple sleep episodes could be obtained in a 24-h period because of napping or infant waking and feeding patterns, and they were counted in addition to night-time sleep) in the first week after the birth, a result not repeated 5 weeks later (Signal et al., 2007). Yet in a similar study, Lee, Zafke and McEnany (2000; cited in Signal et al., 2007) found that multiparous mothers had, in general, a less efficient sleep than primiparous mothers, except for the first month after the birth.

Taken together, these studies point to increased difficulties in adjustment for multiparous mothers, namely higher psychological distress, negative mood or depression, isolation and sleep problems, when compared with primiparous mothers. The exception to the rule seems to be the period right after the birth, when primiparous mothers report higher stress levels and negative mood. Consequently, the presented results suggest different patterns of adjustment over time that need further clarification.

Objectives

The aim of this study is to address the present gap in the literature by investigating the influence of parity in maternal adjustment during the transition to parenthood. The authors believe that this study represents a methodological improvement of previously mentioned studies because, by adopting a longitudinal perspective, it focuses specifically on this issue. For this purpose, the study includes two different assessment points and, adopting Boss' (2002) Family Stress Model, adjustment to motherhood is conceptualised according to two different axes that reflect (1) the need for reorganisation in order to deal with the new tasks arising from the birth of the child, considered a stressful event, and (2) the women's adjustment/well-being in this specific phase of the life cycle.

Hence, this study aims to identify and describe adjustment differences in the transition to parenthood among primiparous and multiparous mothers. More specifically, it aims to:

1. identify and describe adjustment differences among primiparous and multiparous mothers regarding the need for reorganisation and maternal (individual and relational) well-being after the birth of a child, at two different times: in the days following the birth and 8 months post-partum; and
2. identify and describe differences among primiparous and multiparous mothers regarding the temporal evolution (change or stability within and between subjects) of the need for reorganisation and maternal (individual and relational) well-being, from the first assessment point to the second.

Method

This study is part of the 'Transition to parenthood: psychological, medical and social determinants' research project, approved by the Ethic Committee of the University of Coimbra Hospitals and integrated in the Relationships, Development & Health research line of the R&D Unit Institute of Cognitive Psychology, Vocational and Social Development of the University of Coimbra (FEDER/POCTI-SFA-160-192).

It is a longitudinal and prospective study, assessing primiparous and multiparous mothers at two different times: 2–5 days post-partum and 8 months post-partum, as it is expected that mothers have adjusted to daily life after returning to work.

As previously stated, adjustment to motherhood was operationalised according to two different axes that reflect (1) the need for reorganisation and (2) women's individual and relational adjustment/well-being during this specific phase of the life cycle. According to Boss' definition of crisis (2002), higher perceived stress is associated with a need for reorganisation, in order to cope with new circumstances in

life. Hence, the need for reorganisation was assessed using perceived stress and subjective change perception. Individual adjustment was assessed using psychopathological symptoms and emotional reactivity (with the exception of the EAS subscale of happiness, lower values indicate a more positive adaptation) and, finally, relational adjustment was assessed in terms of subjective perception of the marital relation's quality and of maternal competence, or ability to provide maternal care to the baby (higher values indicating a more positive adaptation).

According to the previously stated objectives and the literature review, we expect that: (1) primiparous mothers will show greater adjustment difficulties and need for reorganisation in the days following birth, when compared to multiparous mothers; (2) multiparous mothers will show greater adjustment difficulties and need for reorganisation 8 months after the birth, when compared to primiparous mothers; (3) between the first assessment point and the second, adjustment difficulties and the need for reorganisation will decrease in primiparous mothers; and (4) between the first assessment point and the second, adjustment difficulties and the need for reorganisation in multiparous mothers will either maintain or increase.

Thus, we expect to find different adaptation pathways regarding both groups: in the case of primiparous, the moment just after the birth will prove more complicated, but difficulties will tend to diminish over time. For multiparous mothers the moment just after the birth will not prove to be so complicated but, over time, these mothers may denote increased adjustment difficulties.

Measures

The use of different assessment measures is important to get a more global perspective of human functioning, especially when dealing with normative transition periods. Therefore, the need for reorganisation was assessed with the Perceived Stress Scale and with an adjectival scale of change perception. Individual adjustment was assessed with the Brief Symptom Inventory, due to the increased risk for psychopathologic symptoms pregnancy and the post-partum period represents, and with the Emotional Assessment Scale, which captures more positive functioning dimensions. Finally, relational adjustment was assessed with two adjectival scales designed to assess the marital relation and maternal competence. Participants also completed a socio-demographic questionnaire. All assessment measures are described in detail below.

Perceived Stress Scale, PSS (Cohen, Karmack & Mermelstein, 1983, Portuguese version by IPSSO, 2000): self-report questionnaire with a Likert scale (0=Never; 4=Very often), that assesses stress perceived by the individual at a specific moment in time. The Portuguese version of the scale presents good internal consistency (Cronbach alpha=0.86, Spearman-Brown=0.68 and Split-Half correlation=0.86; Mota-Cardoso, Araújo, Gonçalves & Ramos, 2002).

Brief Symptom Inventory, BSI (Derogatis, 1993; Portuguese version by Canavarro, 1999): brief psychological self-report symptom scale (53 items) that constitutes a short and abbreviated version of the SCL-90, developed by Derogatis. Participants are asked to evaluate the degree of a symptom during the past week on a Likert scale ranging from 0 (Never) to 4 (Very often). BSI assesses psychopathological symptoms

in terms of nine primary symptom dimensions and three global indexes of psychological disturbance. The Portuguese version of this scale presents good levels of internal consistency for the nine scales, with alpha values ranging from 0.62 (Psychoticism) to 0.80 (Somatisation) and test-retest coefficients from 0.63 (Paranoid Ideation) to 0.81 (Depression); construct validity; and discriminant validity, by discriminating emotionally disturbed individuals from non-disturbed individuals (cf. Canavarro, 1999). All required procedures were followed during the development and administration of the Portuguese version of this instrument.

Emotional Assessment Scale, EAS (Carlson et al., 1989; Portuguese version by A. Araújo & M.C. Canavarro, 2002): consists of a 24-item scale developed to assess emotional reactivity. For each of the 24 items, participants have to mark on an analogical scale, measuring from 0 to 100 mm, how much they feel as described (e.g. Surprised, unhappy, fearful, ...) at the moment. The Portuguese version of this scale is sensitive to emotional reactivity variations in non-clinical populations and revealed seven factors related to seven basic emotions: Anxiety, Happiness, Fear, Guilt, Anger, Surprise and Sadness, with internal consistency reliability ranging from 0.73 to 0.88. The scale also showed good construct validity (cf. Moura-Ramos, 2006).

Adjectival scales: these scales present a continuum of adjectives or judgements concerning a specific situation or dimension (Moura-Ramos, 2006). Respondents should select the judgement or adjective that best describes their experience. The marital relation adjectival scale was developed based on the 31st item of the Dyadic Adjustment Scale (Spanier, 1976), that assesses marital satisfaction. This scale included the following judgements: 1 – extremely unhappy, 2 – very unhappy, 3 – unhappy, 4 – happy, 5 – very happy, 6 – extremely happy and 7 – perfect. The maternal competence scale was developed by the authors, and presented mothers with the question ‘How competent do you feel taking care of your child?’ and included the following judgements: 1 – extremely incompetent, 2 – very incompetent, 3 – incompetent, 4 – reasonably competent, 5 – competent, 6 – very competent and 7 – extremely competent. The change perception scale was developed by the authors and used only in the second assessment point to assess individuals’ perception of general change following the birth of the baby. It presented mothers with the question ‘In general terms, how do you evaluate the changes that occurred in your life since your child’s birth?’ and included the following judgements: 1 – extremely negative, 2 – very negative, 3 – negative, 4 – neither negative nor positive, 5 – positive, 6 – very positive and 7 – extremely positive. Two adjectival scales were used in the first assessment point and three in the second.

Sample and procedures

The sample was collected while mothers were on the ward after giving birth, in the Doutor Daniel de Matos Maternity of University of Coimbra Hospitals. The sample was constituted using a non-probabilistic and convenience method. When recruiting participants, full explanation of research objectives, participants’ role and researchers’ obligations was given as well as an informed consent form.

At the first assessment point, researchers contacted directly the mothers and consulted clinical files, at the second, the assessment protocol and an envelope addressed to Doutor Daniel de Matos Maternity were mailed to the participants' home. Participants that met the following criteria were excluded from our sample: preterm birth, HIV, diabetes, medical problems of the foetus, hypertension, premature rupture of membranes, intrauterine growth delay. Similarly, participants who showed literacy difficulties which would prevent them from completing the first assessment protocol were also not included.

The sample was composed of 98 primiparous mothers (54.75%) and 81 multiparous mothers (45.25%) (total sample=179 mothers). Demographic characteristics are shown in Table 1. There are no significant differences in demographic variables, with the exception of age and educational level. Primiparous mothers tended to be younger (Students' $t=-5.103$; $p<0.001$), and to have higher educational levels (Pearson's $\chi^2=9.298$; $p=0.026$).

Data were statistically analysed using SPSS, v.15.0. Although significant differences among primiparous and multiparous mothers concerning age and education level were found, we chose, according to Miller and Chapman (2001), to control only education when testing mean differences, and not age, so that we would not risk uncharacterising our two sample groups, i.e. creating an artificial bias by trying to eliminate age effects: multiparous women are usually older than primiparous.

For testing mean differences between primiparous and multiparous mothers at each of the assessment points, we performed multivariate analysis of variance (MANOVA) concerning the need for reorganisation, individual adjustment and relational adjustment. For the multivariate F tests, a p value of <0.05 was considered significant, and subsequent post hoc comparisons with Bonferroni corrections were made. The only exception regarded the assessment of the need for reorganisation at the first assessment point: as it is only assessed with the PSS score, a univariate analysis was performed.

Table 1. Sample characteristics.

	Primiparous mothers		Multiparous mothers	
	N 98	% 100	N 81	% 100
Marital status				
Married/cohabiting	98	100	81	100
Education				
Primary school	19	19.6	29	35.8
Secondary or high school	48	49.5	25	30.9
College or university	30	30.9	27	33.3
Socioeconomic status				
Low	46	47.4	40	49.4
Medium	42	43.3	37	45.7
High	9	9.3	4	4.9
Professional situation				
Employed	80	82.5	69	85.2
Unemployed	6	6.2	3	3.7
Housewife/retired	11	11.3	9	11.1
Age	M=27.09; SD=4.47		M=30.26; SD=3.68	

For testing changes across groups (between subjects) and assessment points (within subjects) we resorted to the Linear Mixed Models procedure using only those women with data for both assessment points. Also here, a p value of <0.05 was considered to determine the statistical significance of results.

Results

Need for reorganisation and maternal individual and relational adjustment 2–5 days following birth

Table 2 shows mean differences between primiparous and multiparous mothers at both assessment points: 2–5 days and 8 months post-partum, after controlling for education.

Need for reorganisation

The univariate effect was not significant.

Individual adjustment

The multivariate effect was significant ($F(16,114)=2.961$; $p<0.001$). Primiparous mothers reported higher emotional reactivity in the subscales of anxiety, fear and surprise, but also happiness; and higher psychopathology symptoms in the subscales of phobic anxiety and psychoticism.

Relational adjustment

The multivariate effect was significant ($F(2,170)=6.986$; $p=0.001$). Primiparous mothers reported higher satisfaction with the marital relationship but also lower maternal competence than multiparous.

Need for reorganisation and maternal individual and relational adjustment 8 months after the birth

Need for reorganisation

The multivariate effect was not significant. None the less, it should be noted that the level of significance of the Change perception mean difference was 0.05, indicating a marked tendency for primiparous mothers to perceive changes resulting from the birth of their child as more positive than multiparous.

Individual adjustment

The multivariate effect was significant ($F(16,26)=2.462$; $p<0.020$). Primiparous mothers report higher emotional reactivity in the subscales of happiness and lower in the subscale of anger. However, these mothers also report significantly higher psychopathologic symptoms in the subscale of phobic anxiety.

Relational adjustment

The multivariate effect was significant ($F(2,53)=3.377$; $p=0.043$). Primiparous mothers reported higher satisfaction with the marital relationship than multiparous.

Table 2. Mean differences for maternal need for reorganisation and individual and relational adjustment per parity, at both assessment points (adjusted for education).

Measures		2–5 days post-partum				8 months post-partum				
		<i>N</i>	M (SD)	F	<i>p</i>	<i>N</i>	M (SD)	F	<i>p</i>	
Need for reorganisation							F(2,52)=2.218; <i>p</i> <0.118			
Perceived stress (PSS)	Primi	92	22.23 (4.40)	2.036	.155	33	19.48 (5.64)	.437	.511	
	Multi	80	21.08 (5.47)			24	20.79 (5.00)			
Change perception	Primi	–	–	–	–	33	5.67 (0.96)	4.040	.050	
	Multi					24	5.13 (1.03)			
Individual adjustment			F (16,114)=2.961; <i>p</i> <0.0001				F(16,26)=2.462; <i>p</i> <.020			
Emotional reactivity	Anxiety	Primi	70	32.82 (19.21)	9.530	.002	26	32.89 (22.35)	.320	.575
		Multi	63	23.28 (17.07)			19	37.30 (23.42)		
	Happiness	Primi	70	84.91 (13.02)	5.559	.020	26	78.24 (18.93)	5.151	.029
		Multi	63	77.96 (17.77)			19	62.19 (22.09)		
	Fear	Primi	70	19.19 (15.78)	9.414	.003	26	17.08 (16.56)	.027	.871
		Multi	63	11.86 (11.99)			19	18.46 (12.99)		
	Guilt	Primi	70	14.30 (8.40)	1.236	.268	26	13.88 (11.72)	.634	.430
		Multi	63	12.77 (9.19)			19	17.67 (12.26)		
	Anger	Primi	70	8.86 (10.06)	.005	.942	26	12.33 (13.66)	5.052	.030
		Multi	63	9.22 (10.73)			19	22.58 (16.58)		
	Surprise	Primi	70	34.70 (20.73)	18.901	.000	26	26.22 (16.30)	.598	.444
		Multi	63	22.13 (14.62)			19	22.53 (14.59)		
	Sadness	Primi	70	11.36 (13.86)	.059	.809	26	14.46 (16.39)	1.774	.190
		Multi	63	11.35 (13.45)			19	21.58 (21.34)		

Table 2. (Continued.)

Measures			2–5 days post-partum				8 months post-partum			
			<i>N</i>	<i>M</i> (SD)	<i>F</i>	<i>p</i>	<i>N</i>	<i>M</i> (SD)	<i>F</i>	<i>p</i>
Psychopathologic symptoms	Somatisation	Primi	70	0.69 (0.57)	1.711	.193	26	0.61 (0.66)	3.714	.061
		Multi	63	0.54 (0.48)			19	0.31 (0.29)		
	Obsess–compulsions	Primi	70	1.04 (0.51)	1.498	.223	26	1.18 (0.60)	1.723	.197
		Multi	63	0.91 (0.52)			19	1.00 (0.62)		
	Interp sensitivity	Primi	70	0.81 (0.79)	1.971	.163	26	0.83 (0.64)	.704	.406
		Multi	63	0.63 (0.55)			19	0.70 (0.54)		
	Depression	Primi	70	0.73 (0.71)	.562	.455	26	0.65 (0.60)	.002	.965
		Multi	63	0.62 (0.62)			19	0.68 (0.75)		
	Anxiety	Primi	70	0.90 (0.57)	.570	.451	26	0.83 (0.61)	3.281	.077
		Multi	63	0.80 (0.57)			19	0.55 (0.49)		
	Hostility	Primi	70	0.91 (0.67)	.768	.382	26	0.75 (0.53)	.014	.907
		Multi	63	0.79 (0.58)			19	0.77 (0.58)		
	Phobic anxiety	Primi	70	0.58 (0.53)	6.108	.015	26	0.55 (0.48)	12.419	.001
		Multi	63	0.37 (0.46)			19	0.16 (0.27)		
Paranoid ideation	Primi	70	0.90 (0.74)	1.007	.318	26	1.01 (0.50)	3.587	.065	
	Multi	63	0.77 (0.64)			19	0.75 (0.51)			
Psychoticism	Primi	70	0.65 (0.59)	4.985	.027	26	0.63 (0.51)	1.558	.219	
	Multi	63	0.43 (0.44)			19	0.49 (0.55)			
Relational adjustment			F(2, 170)=6.986; <i>p</i> <0.001				F(2,53)=3.377; <i>p</i> <0.042			
Marital relationship	Primi	97	5.53 (1.11)	4.942	.028	34	5.12 (0.91)	6.586	.013	
	Multi	78	5.10 (1.15)			24	4.50 (0.88)			
Maternal competence	Primi	97	5.47 (0.89)	5.618	.019	34	6.06 (0.60)	.194	.661	
	Multi	78	5.77 (0.91)			24	5.96 (0.62)			

Changes over time regarding need for reorganisation and maternal individual and relational adjustment in primiparous and multiparous mothers

Table 3 shows mean differences between primiparous and multiparous mothers and over time, regarding all assessment measures (except for change perception, only assessed in the second assessment point), after controlling for education.

Need for reorganisation

Results shown in Table 3 indicate that no significant differences exist between groups and over time regarding the need for reorganisation, more precisely, perceived stress.

Individual adjustment

Results show that primiparous women report significantly higher emotional reactivity in the subscales of fear and surprise, but also happiness, and higher psychopathologic symptoms in the subscales of somatisation, paranoid ideation and psychoticism. We can also observe that, from the first to the second assessment point, there is a significant global decrease of emotional reactivity in the subscale of happiness and a significant global increase in the subscales of anger and sadness. These increases especially concern multiparous mothers (in the first case the parity/time interaction effect is statistically significant, cf. Figure 1A, but in the second it is not). We also find significant parity/time interaction effects regarding the subscales of fear (cf. Figure 1B) and surprise (cf. Figure 1C), both pointing to an approximation of both groups' means values, through the decrease of the primiparous group mean value and the increase of the multiparous group mean value. A significant global decrease from the first to the second assessment point is also found regarding psychopathologic symptoms in the subscale of anxiety. Finally, the same interaction pattern previously observed regarding emotional reactivity is present in the psychopathologic symptoms' subscale of psychoticism: there is an approximation of both groups means values, through the decrease of the primiparous group mean value and the increase of the multiparous group mean value (cf. Figure 1D).

Relational adjustment

It can be observed that primiparous women report a significantly higher global satisfaction with the marital relationship, although these global values significantly drop from the first to the second assessment point for both groups. Regarding maternal competence, a significant global increase over time can be observed, especially among primiparous women, who in the second assessment point show a even higher mean value than multiparous mothers (with a statistically significant parity/time interaction effect; cf. Figure 1E).

Discussion

The challenges that parents face in the transition to parenthood are now widely recognised. However, the differential impact resulting from the birth of the first or subsequent children on their parents' life has not been appreciated. Adopting Boss'

Table 3. Mean differences for maternal need for reorganisation and individual and relational adjustment per parity and time (adjusted for education).

Measures		2–5 days post-partum	8 months post-partum	df	Parity (main effect)		Time (main effect)		Parity/time (interaction effect)		
		M (SD)	M (SD)		F	<i>p</i>	F	<i>p</i>	F	<i>p</i>	
Need for reorganisation Perceived stress (PSS)	Primi	22.32 (0.94)	19.65 (0.94)	(1,52)	.094	.760	2.815	.099	3.206	.079	
	Multi	20.57 (1.10)	20.65 (1.10)								
Individual adjustment											
Emotional reactivity	Anxiety	Primi	36.79 (3.87)	36.97 (3.87)	(1,53)	.978	.327	2.887	.095	2.693	.107
		Multi	26.44 (4.75)	36.90 (4.75)							
	Happiness	Primi	82.88 (3.27)	76.48 (3.27)	(1,53)	6.426	.014	8.426	.005	.950	.334
		Multi	76.08 (4.00)	63.20 (4.00)							
	Fear	Primi	27.18 (3.10)	21.86 (3.10)	(1,50)	5.702	.021	.548	.463	7.587	.008
		Multi	9.79 (3.92)	19.03 (3.92)							
	Guilt	Primi	16.89 (2.07)	17.34 (2.07)	(1,51)	.475	.494	1.461	.232	.933	.339
		Multi	13.29 (2.46)	17.34 (2.46)							
	Anger	Primi	15.33 (2.80)	15.30 (2.80)	(1,47)	.166	.686	7.536	.009	7.622	.008
		Multi	10.48 (3.23)	23.08 (3.23)							
	Surprise	Primi	36.96 (3.11)	29.14 (3.11)	(1,47)	8.786	.005	.254	.617	4.531	.039
		Multi	18.74 (3.91)	23.56 (3.91)							
Sadness	Primi	15.78 (3.25)	18.43 (3.25)	(1,46)	.040	.842	6.224	.016	2.648	.110	
	Multi	9.96 (4.02)	22.58 (4.02)								

Table 3. (Continued.)

Measures			2–5 days post-partum	8 months post-partum	df	Parity (main effect)		Time (main effect)		Parity/time (interaction effect)	
			M (SD)	M (SD)		F	p	F	p	F	p
Psychopathologic symptoms	Somatisation	Primi	0.97 (0.09)	0.79 (0.09)	(1,35)	11.326	.002	2.336	.135	.270	.606
		Multi	0.48 (0.13)	0.40 (0.13)							
	Obsess–compulsions	Primi	1.21 (0.10)	1.24 (0.10)	(1,49)	2.749	.104	2.140	.150	1.360	.249
		Multi	0.86 (0.14)	1.13 (0.14)							
	Interp sensitivity	Primi	1.13 (0.11)	1.08 (0.11)	(1,38)	3.232	.080	.048	.828	.048	.828
		Multi	0.84 (0.15)	0.84 (0.15)							
	Depression	Primi	0.95 (0.11)	0.77 (0.11)	(1,39)	.861	.359	.018	.893	2.231	.143
		Multi	0.63 (0.17)	0.78 (0.17)							
	Anxiety	Primi	1.13 (0.11)	0.95 (0.11)	(1,43)	3.413	.072	4.769	.034	.000	.990
		Multi	0.84 (0.14)	0.67 (0.14)							
	Hostility	Primi	1.00 (0.09)	0.79 (0.09)	(1,48)	1.021	.317	1.508	.225	1.819	.184
		Multi	0.78 (0.11)	0.79 (0.11)							
	Phobic anxiety	Primi	1.01 (0.13)	0.78 (0.13)	(1,28)	4.095	.053	.610	.441	.610	.441
		Multi	0.40 (0.25)	0.40 (0.25)							
Relational adjustment	Paranoid ideation	Primi	1.06 (0.09)	1.09 (0.09)	(1,47)	7.951	.007	.014	.905	.123	.727
		Multi	0.74 (0.12)	0.72 (0.12)							
	Psychoticism	Primi	0.85 (0.10)	0.79 (0.10)	(1,41)	4.645	.037	2.375	.131	4.322	.044
		Multi	0.33 (0.14)	0.70 (0.14)							
	Marital relationship	Primi	5.82 (0.15)	5.12 (0.15)	(1,55)	7.045	.010	37.175	.000	.099	.754
		Multi	5.30 (0.19)	4.52 (0.19)							
	Maternal competence	Primi	5.29 (0.12)	6.03 (0.12)	(1,56)	2.582	.114	14.658	.000	9.158	.004
		Multi	5.88 (0.15)	5.96 (0.15)							

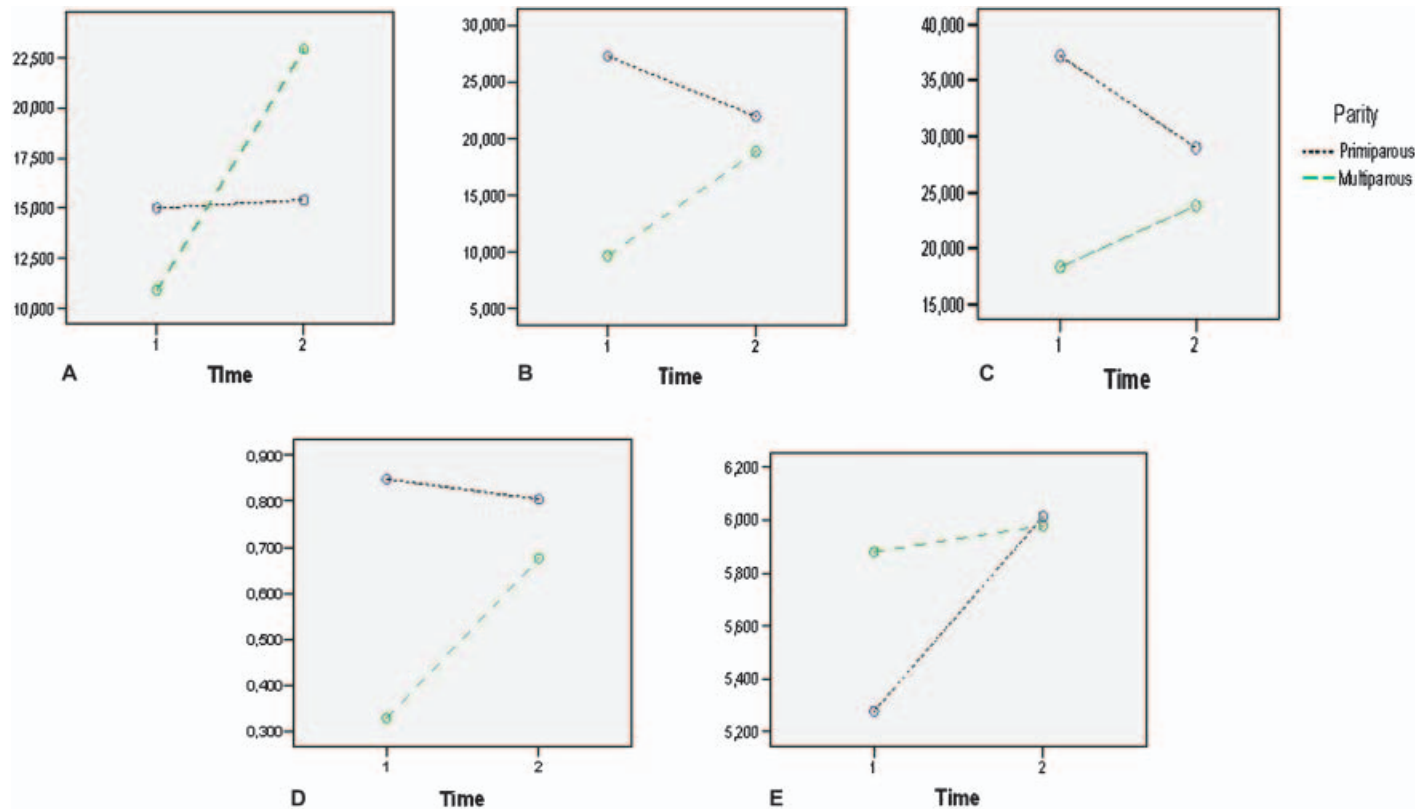


Figure 1. Mean differences by parity and time (1: 2–5 days post-partum; 2: 8 months post-partum), adjusted for education. Only those scales for which a significant parity/time interaction effect was found are shown. A=EAS Anger, B=EAS Fear, C=EAS Surprise, D=BSI Psychotism, E=Maternal Competence.

(2002) Family Stress Model, this study aimed to better understand this differential impact.

Considering each of the hypothesis previously raised and the results obtained, the following considerations can be drawn.

1. *Primiparous mothers will show greater adjustment difficulties and need for reorganisation in the days following birth, when compared to multiparous mothers.* This was only partially supported since no significant differences were found regarding the need for reorganisation. These results suggest that the moment right after the birth implies significant demands from both primiparous and multiparous mothers. On one side, the novelty element faced by primiparous mothers may explain both the worse individual (higher negative emotional reactivity and psychopathological symptoms) and relational (lower perceived maternal competence) adjustment levels reported. On the other side, it should be noted that this novelty may also explain the extreme happiness reported by these mothers. The lower values reported by multiparous regarding satisfaction with the marital relationship (also present at the second assessment point) are coherent with the literature in the field, that suggests that children have the paradoxical effect of increasing the stability of marriage while decreasing its quality (Belsky & Rovine, 1990; Waite & Lillard, 1991).

2. *Multiparous mothers will show greater adjustment difficulties and need for reorganisation eight months after the birth, when compared to primiparous mothers.* In general, and contrary to what was expected, the two groups did not differ that much. When they did differ, however, and with the exception of phobic anxiety, multiparous mothers seemed to report a worse individual and relational functioning.

3. *From the first assessment point to the second, primiparous' adjustment difficulties and their need for reorganisation will decrease.* There was a general tendency for a decrease in reported values of perceived stress, emotional reactivity and psychopathological symptoms (cf. Table 3). However, few significant effects were found, and when only those are considered, results become more ambiguous, in that both positive and negative changes were found. Specifically, these mothers reported less happiness and higher sadness, but they also reported less anxiety (in the BSI subscale) and more maternal competence. There is also a decline in the perceived quality of the marital relationship, but this result is in accordance with most longitudinal studies on the subject (e.g. Belsky, Spanier, & Rovine, 1983; Cowan et al., 1985) and should, therefore, be considered as the expected tendency.

4. *From the first assessment point to the second, multiparous' adjustment difficulties and need for reorganisation will either maintain or increase.* In general this proved to be the tendency, especially regarding emotional reactivity and psychopathologic symptoms (cf. Table 3), that either maintained or increased. Multiparous mothers reported a significant increase in sadness, over time, and a decrease in happiness. This pattern, although similar to primiparous, was more accentuated, and they also reported a significant increase in anger over time. Such difficulties, as suggested by Hakulinen et al. (1997), can be the result of an increased complexity of roles in the family and the associated impending conflict. Therefore, it does not come as a surprise that, eight months after the birth, multiparous mothers report significantly lower levels of happiness and higher levels of anger than primiparous mothers.

Similarly to primiparous mothers, the multiparous group also reported a decline in the perceived quality of the marital relationship, but these mothers are generally less satisfied with their marital relationship. Considering that it is often quoted as an important predictor of maternal adjustment (Belsky, 1984; Belsky & Jaffee, 2004), the burn-out of a longer marital relationship may increase the risk for a poor adaptation of multiparous mothers.

Concerning adaptation pathways, results become clearer when we consider the parity/time interaction effect: when significant interaction effects are found, these point to a decrease in adjustment difficulties over time for primiparous and an increase for multiparous, which are particularly visible regarding anger and maternal competence, with multiparous mothers reporting worse adjustment in the second assessment time (cf. Figure 1). It could be asked if this interaction effect would be more visible if a longer time after the birth was considered for the second assessment point.

Finally it should be noted that, although primiparous mothers tend to adapt positively over time, generally, results suggest that these mothers report more adjustment difficulties than those in the multiparous group during the assessment interval considered (cf. Table 3): they report higher values of psychopathologic symptoms (namely somatisation, paranoid ideation and psychoticism) and emotional reactivity (namely fear and surprise). These adjustment difficulties, none the less, are not clinically meaningful, since reported values are within the range of normality for the general population (cf. Canavarro, 1999; Moura-Ramos, 2006).

However, primiparous mothers also see themselves as happier and more satisfied with their marital relationship. Although these results need further exploration, they suggest higher emotional ambiguity for primiparous mothers, i.e. the simultaneous presence of positive and negative appraisals and emotions.

Future studies, contemplating a longer assessment period, should be implemented in order to shed light on present findings. Also, considering that transition to parenthood is a complex and multidetermined phenomenon (Belsky & Rovine, 1990), it could be relevant to investigate the relative influence of parity, when compared to other influential factors usually quoted.

The authors acknowledge that the decrease in the participation of mothers from the first to the second assessment point is a severe limitation of this study. Since there was no direct contact with participants in the second assessment, the reasons behind this sample reduction were not identified. The fact that a specific measure of the marital relationship was not used is another important limitation of the study. Finally, some of the measures used, although not measuring identical constructs, may present some redundancy, expressed in the significant associations found between some of their subscales (for instance, the PSS total score showed a correlation index of 0.484 with the BSI subscale of Anxiety, and this scale showed a correlation index of 0.495 with the EAS subscale of Anxiety).

Based on what has been reported, we conclude that the results of this study suggest the existence of different developmental pathways (different difficulties and patterns of adjustment) in the transition to parenthood of primiparous and multiparous mothers, which may justify different psychosocial guidance for each group. In the former case, intervention could assume a strong educative component focusing on practical caregiving daily tasks and, simultaneously, allowing for the ventilation of emotions and discussion of concerns related to the adaptation to the caregiver role. In the latter, intervention could be directed to promote the

reorganisation of the family, integrating marital therapy, and problem resolution and negotiation techniques. Nevertheless, it is important to note that, in a clinical context, attention should always be paid to individual developmental pathways and specific adjustment patterns.

Notes

1. In Portugal, this happens in the fourth to fifth month after the birth.

References

- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 55, 83–96.
- Belsky, J., & Jaffee, S.R. (2004). The multiple determinants of parenting. In D. Cicchetti & D.J. Cohen (Eds.), *Developmental psychopathology* (2nd ed., Vol. 3: Risk, Disorder, and Adaptation, pp. 38–85). New York: John Wiley & Sons, Inc.
- Belsky, J., & Rovine, M. (1990). Patterns of marital changes across the transition to parenthood: Pregnancy to three years postpartum. *Journal of Marriage and Family*, 52, 5–19.
- Belsky, J., Spanier, G., & Rovine, M. (1983). Stability and change in marriage across the transition to parenthood. *Journal of Marriage and Family*, 45, 553–566.
- Boss, P. (2002). *Family stress management: A contextual approach*. Thousand Oaks, CA: Sage.
- Canavarro, M.C. (1999). Inventário de Sintomas Psicopatológicos – BSI. In M.R. Simões, M. Gonçalves, & L. Almeida (Eds.), *Testes e provas psicológicas em Portugal*. Braga: APPORT/SHO.
- Canavarro, M.C. (2001). Gravidez e Maternidade – Representações e tarefas de desenvolvimento. In M.C. Canavarro (Ed.), *Psicologia da Gravidez e Maternidade* (pp. 17–49). Coimbra: Quarteto Editora.
- Carlson, C.R., Collins, F.L., Stewart, J.F., Porzellius, J., Nitz, J.A., & Lind, C.O. (1989). The assessment of emotional reactivity: A scale development and validation study. *Journal of Psychopathology and Behaviour Assessment*, 11, 313–325.
- Cohen, S., Karmack, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385–396.
- Colman, L.L., & Colman, A. (1994). *Gravidez – a experiência psicológica*. Lisboa: Colibri.
- Condon, J.T., & Esuvaranathan, V. (1990). The influence of parity on the experience of pregnancy: A comparison of first and second-time expectant couples. *British Journal of Medical Psychology*, 63, 369–377.
- Cowan, C.P., Cowan, P.A., Heming, G., Garret, E., Coysh, W.S., & Curtis-Boles, H., et al. (1985). Transition to parenthood: His, hers and theirs. *Journal of Family Issues*, 6, 451–481.
- Cummings, E.M., Davies, P.T., & Campbell, S.B. (2000). *Developmental psychopathology and family process: Theory, research and clinical implications*. New York: The Guildford Press.
- Derogatis, L.R. (1993). *BSI: Brief Symptom Inventory. Administration, scoring and procedures manual*. Minneapolis: National Computers Systems.
- Goldberg, W.A. (1988). Perspectives on the transition to parenthood. In G.Y. Michaels & W.A. Goldberg (Eds.), *The transition to parenthood: Current theory and research* (pp. 1–20). Cambridge: Cambridge University Press.
- Goldberg, W.A., & Michaels, G.Y. (1988). The transition to parenthood: Synthesis and future directions. In G.Y. Michaels & W.A. Goldberg (Eds.), *The transition to parenthood: Current theory and research* (pp. 343–360). Cambridge: Cambridge University Press.
- Hakulinen, T., Paunonen, M., White, M.A., & Wilson, M.E. (1997). Dynamics of families during the third trimester of pregnancy in southwest Finland. *International Journal of Nursing Studies*, 34(4), 270–277.

- Hung, C.-H. (2004). Predictors of postpartum women's health status. *Journal of Nursing Scholarship*, 36, 345–351.
- Johnstone, S.J., Boyce, P.M., Hickey, A.R., Morris-Yates, A.D., & Harris, M.G. (2001). Obstetric risk factors for postnatal depression in urban and rural community samples. *Australian and New Zealand Journal of Psychiatry*, 35, 69–74.
- Kreppner, K. (1988). Changes in parent-child relationships with the birth of the second child. In R. Palkovitz & M.B. Sussman (Eds.), *Transition to parenthood* (pp. 157–181). New York: The Haworth Press.
- Lee, K.A., Zafitke, M.E., & McEnany, G. (2000). Parity and sleep patterns during and after pregnancy. *Obstetrics and Gynaecology*, 95, 14–18.
- Miller, G.A., & Chapman, J.P. (2001). Misunderstanding analysis of covariance. *Journal of Abnormal Psychopathology*, 110(1), 40–48.
- Mota-Cardoso, R., Araújo, A.R., Gonçalves, G., & Ramos, M. (2002). *O stress nos professores portugueses: Estudo IPSSO 2000*. Porto: Porto Editora.
- Moura-Ramos, M. (2006). Adaptação materna e paterna ao desenvolvimento de um filho: Percursos e contextos de influência. Faculdade de Psicologia e Ciências da Educação. Universidade de Coimbra, Coimbra.
- Righetti-Veltema, M., Conne-Perréard, E., Bousquet, A., & Manzano, J. (1998). Risk factors and predictive signs of postpartum depression. *Journal of Affective Disorders*, 49, 167–180.
- Salmena-Aro, K., & Nurmi, J.E. (1983). Transition to parenthood – Changes in self concept, depression and marital satisfaction. 50th Anniversary Meeting of the Society for Research in Child Development, Detroit, MI.
- Signal, T.L., Gander, P.H., Sangalli, M.R., Travier, N., Firestone, R.T., & Jeremy, F.T. (2007). Sleep duration and quality in healthy nulliparous and multiparous women across pregnancy and post-partum. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 47, 16–22.
- Skaria, H., Skredenb, M., Maltc, U.F., Dalholtd, M., Ostensene, A.B., Egelandf, T., & Emblem, R. (2004). Comparative levels of psychological distress, stress symptoms, depression and anxiety after childbirth – A prospective population-based study of mothers and fathers. *British Journal of Gynaecology*, 109, 1154–1163.
- Spanier, G.B. (1976). Measuring dyadic adjustment: New scales for assessing the quality of marriage and other dyads. *Journal of Marriage and Family*, 38, 15–28.
- Stewart, R.B. (1990). *The second child: Family transition and adjustment*. Newbury Park: Sage.
- Vliegen, N., Luyten, P., Meurs, P., & Cluckers, G. (2006). Adaptive and maladaptive dimensions of relatedness and self-definition: Relationship with postpartum depression and anxiety. *Personality and Individual Differences*, 41, 395–406.
- Waite, L.J., & Lillard, L.A. (1991). Children and marital disruption. *American Journal of Sociology*, 96, 930–953.
- Wilkinson, R.B. (1995). Changes in psychological health and the marital relationship through childbearing: Transition or process as stressor? *Australian Journal of Psychology*, 47, 86–92.
- Wilkinson, R.B. (1999). Mood changes in mothers and fathers through childbearing: Are the blues so blue? *Psychology and Health*, 14, 847–858.